



Editorial

Int Neurorol J 2018;22(3):149-150
<https://doi.org/10.5213/inj.1820edi.006>
pISSN 2093-4777 · eISSN 2093-6931



Deepening Knowledge Through Basic and Clinical Research

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People of every age experience lower urinary tract symptoms (LUTS) are closely related with quality of life. The causes of LUTS are diverse, and methods to treat LUTS depending on their specific cause have therefore been developed. Moreover, treatment methods have evolved through the development of new therapies, as well as by increasing treatment quality and decreasing the frequency of adverse events associated with treatment through preclinical and clinical studies. This issue of the *International Neurourology Journal* (INJ) contains articles that investigate LUTS from various points of view, with the goal of in-depth perspectives on points to be considered by investigators in the field of neurourology.

Demographic factors such as sex, education, and lifestyle influence the prevalence of LUTS. An analysis of the characteristics of LUTS in elderly residents of rural areas in Korea reported that the majority of men and women experienced at least 1 LUTS, the most common of which was nocturia [1]. Urinary incontinence (UI) was the second most common LUTS in men and women, however, most common form of UI in women was stress UI, whereas urge UI was the most common type of UI in men. As reported by Park et al. [1] in this study, the increasing prevalence of overactive bladder (OAB) and UI in women after menopause is a well-known fact. Decreased estrogen is a risk factor for diminished function of the pelvic floor muscles and LUTS. However, few studies have investigated how low serum estrogen influences the pelvic floor muscles. The results by Carrasco-Ruiz et al. [2] offer some clues. They observed the presence of estrogen receptor alpha and beta in the pubococcygeus and iliococcygeus muscles. In addition, the expression of glucose transporter type 4 (Glut4) was analyzed to evaluate

metabolic changes in the pubococcygeus and iliococcygeus muscles depending on the level of serum estrogen. Glucose uptake in adult skeletal muscle is mediated by Glut4, and estrogen controls Glut4-mediated glucose uptake [3,4]. Carrasco-Ruiz et al. [2] showed that Glut4 was expressed in the pubococcygeus and iliococcygeus muscles; however, high estradiol levels increased Glut4 expression and glycogen content only in the pubococcygeus muscle. These findings provide insights of pelvic floor muscle changes in menopausal women.

In this issue of INJ, 2 articles show that LUTS can play a key role in diagnosing or discriminating among diseases and that LUTS are common in patients with chronic diseases. LUTS are commonly seen in neurologic diseases, and they can be an initial symptom of specific neurologic diseases. Moreover, the similarities of LUTS among various neurologic diseases can cause confusion. Nonetheless, LUTS can play a key role for the differential diagnosis of neurologic diseases that show similar symptoms, such as neuromyelitis optica (NMO) and multiple sclerosis (MS). Declémy et al. [5] investigated differences in the LUTS experienced by patients between NMO and MS. NMO patients frequently experienced OAB and urinary retention, whereas low bladder compliance, serious urinary tract infections, and urinary retention were commonly observed in MS patients. As the survival rate of cancer patients is increasing, concerns about the functional changes caused by cancer treatment have emerged. Many reports have investigated voiding dysfunction associated with surgical treatment in cancer patients; however, studies of chemotherapy-associated voiding dysfunction are lacking. Cho et al. [6] analyzed the associations between the severity of chemotherapy-induced peripheral neu-



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ropathy (CIPN) and LUTS. Their results demonstrated that LUTS are important symptoms in patients with CIPN.

In addition, the current issue of INJ contains clinical studies to offer useful information about specific treatment modalities, such as an analysis of risk factors for stress UI after holmium laser enucleation of the prostate [7], follow-up results of a new therapeutic device for anterior vaginal wall prolapse [8], and factors associated with successful sacral neuromodulation [9].

• **Conflict of Interest:** No potential conflict of interest relevant to this article was reported.

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